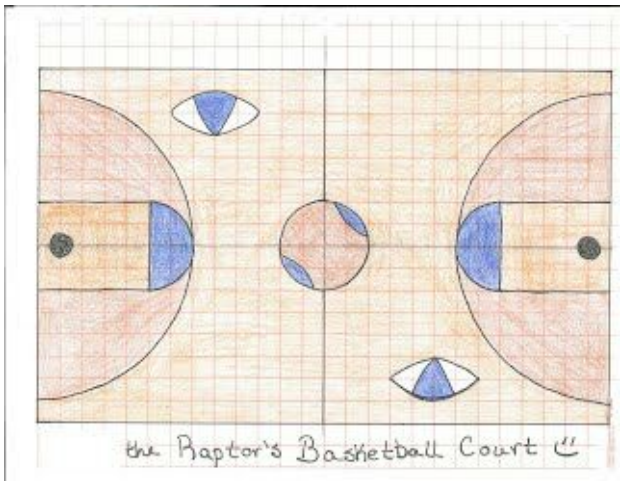
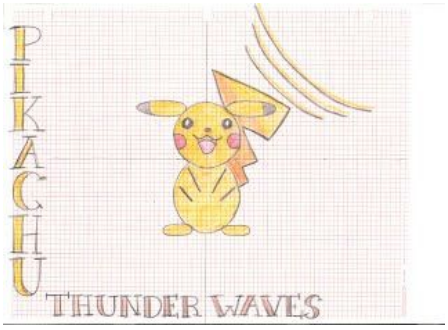
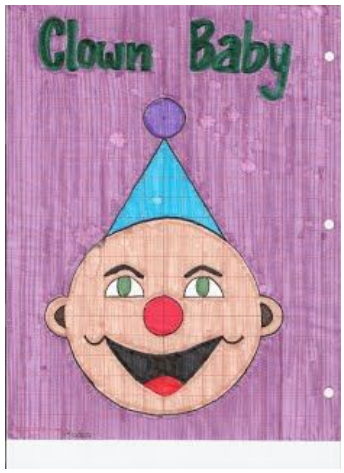
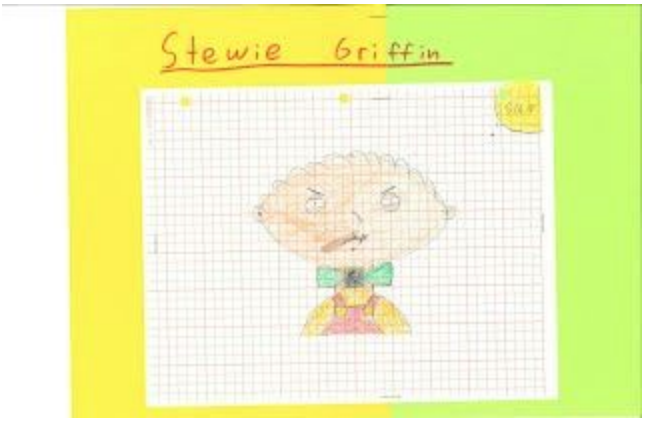
Precalculus: Piecewise Art
Due: Week of _____
Weight = 5
CS: Piecewise Art





DO NOT DIRECTLY DRAW ANY OF THESE EXAMPLES SHOWN. USE THEM AS A STARTING POINT OR INSPIRATION PLEASE!

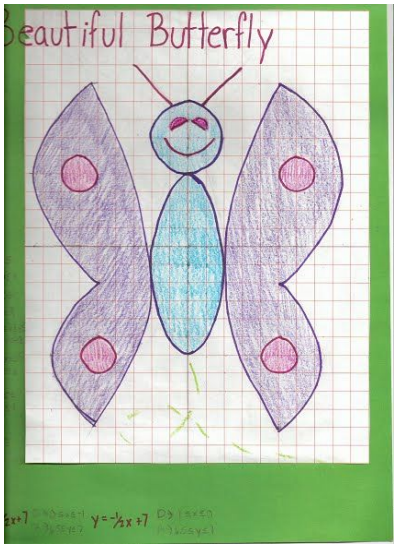




Task:
You are going to create a piece of artwork that incorporates conic sections (Hyperbola's, Ellipses, Circles and Parabola's). The criteria for the artwork is shown below:

1) Must be a COHERENT picture (Myself or anyone else looking at it must be able to tell what it is as a WHOLE.)

2) Must include AT LEAST:



a) 3 ellipses
b) 1 hyperbola
c) 4 circles
d) 2 parabola

3) You must include the equation that represents EACH of the conic sections above. Any other (extra) conic sections that you create do NOT need an equation (lines or absolute value)

4) You must include the DOMAIN and RANGE of EACH of the conic sections above. Any other (extra) conic sections that you create do NOT need a stated DOMAIN and RANGE (lines or absolute value)

5) Your artwork needs a TITLE! :)

6) Graphs must be ACCURATE! Use the materials you need (ruler, protractor, compass,etc.) to make your curves and lines PERFECT!

7) Color it in! Make it look great! Craftsmanship will add lots of points!

Information that could be helpful:

1) Your ISN FOR SURE!
2) This chart below of formulas could help you. You need to remember and lookup when to use what formula.

Ellipse	Hyperbola	Circles	Parabola
$\frac{(x-h)^2}{a^2}+\frac{(y-k)^2}{b^2}=1$ $\frac{(y-k)^2}{a^2}+\frac{(x-h)^2}{b^2}=1$	$\frac{(x-h)^2}{a^2}-\frac{(y-k)^2}{b^2}=1$ $\frac{(y-k)^2}{a^2}-\frac{(x-h)^2}{b^2}=1$	$(x-h)^2+(y-k)^2=r^2$	regular: $y=a(x-h)^2+k$ sideways: $x=a(y-k)^2+h$

RUBRIC FOR PIECEWISE ART

(I WILL HIGHLIGHT ONE OF EACH BULLET POINT AND AVERAGE THE SCORES)
(YOU NEED TO TURN THIS RUBRIC IN WITH YOUR FINAL PRODUCT. FAILURE TO DO SO WILL START YOU AT A 3.5 AS YOUR HIGHEST POSSIBLE GRADE)

4	3	2	1
● My picture is COHERENT & extremely easy to identify ● All the conic sections drawn go together perfectly. ● I have all the conic sections requirements drawn. ● The conic section graphs are accurate; it is clear that a ruler was used when needed. ● All equations are correct. ● All domain and ranges are correct. ● My artwork has a title ● My artwork is colored in	● My picture is semi COHERENT & easy to identify ● All the conic sections drawn go together almost perfectly. ● I have MOST of the conic sections requirements drawn. ● The conic section graphs are MOSTLY accurate; it is clear that a ruler was used when needed. ● MOST equations are correct. ● MOST domain and ranges are correct. ● My artwork has a title ● My artwork is colored in	● My picture is not completely coherent & a little hard to identify. ● All the conic sections drawn do not go to together very well. ● I have SOME of the conic sections requirements drawn. ● The conic section graphs are SOMEWHAT accurate; it is clear that I freehanded and did not use a ruler. ● SOME equations are correct. ● SOME domain and ranges are correct. ● My artwork has a title ● My artwork is colored in	● My picture is NOT COHERENT & cannot be identified. ● All the conic sections drawn do not go together. ● I have A COUPLE of the conic sections requirements drawn. ● The conic section graphs are BARELY accurate; it is clear that a ruler was used when needed. ● VERY FEW equations are correct. ● VERY FEW domain and ranges are correct. ● My artwork is missing a title ● My artwork is not colored in